

# PHENIX

## WEEKLY PLANNING



Technical Support 2008



10/30/2008  
Don Lynch



# IR Configuration for remainder of shutdown

October    November    December    January  
 5 12 19 26    2 9 16 23 30    7 14 21 28    4 11 18 25

**Run Position 10/20 - 10/31**  
 (CM & MMS moved north WC west)



**Station 1 south access 11/3-12/12**  
 (MMS moved south WC west)



**Station 1 north access 12/15-12/31**  
 (CM moved south, WC west)



**East Carriage Install 1/2-1/15**  
 (CM moved north, EC & WC opt.)



**Run Position 1/16-1/19**  
 (MMS moved north, EC & WC opt)



**Ready for run 9 1/19-2/1**  
 (MuID Collars Installed, EC & WC opt.)



October				November				December				January				
5	12	19	26	2	9	16	23	30	7	14	21	28	4	11	18	25

Run Position 10/15 - 10/31  
(CM & MMS moved north WC west)



Move CM & MMS north 10/20-10/21 <DONE>

MuTrigger S rack ass'y <DONE>

RPC proto rack assy by 10/15 <Ready for Installation>

water & Elec prep 10/17-10/31



RPC2 proto gas system by 10/31



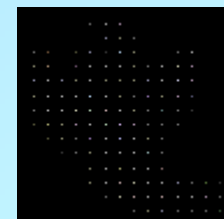
RPC proto cable by 10/31  
routing & support



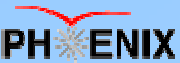
Install RPC2 prototype 10/20-10/31



PC1 West repairs 10/20-10/31 <DONE>



# Shutdown '08 Schedule



October    November    December    January  
 5 12 19 26    2 9 16 23 30    7 14 21 28    4 11 18 25

**Station 1 south access 11/3-12/12**  
 (MMS moved south WC west)



**Move MMS south 11/3**



**Install sta 1. S Scaffolds 11/4-11/7**



**HBD Installation (west) 11-6-11/7**  
**(east) 12/17-12/31**



**MuTrigger FEE 11/10-11/14**  
**Sta 1 S chasis install**



**Sta 1S chasis 11/3-11/14**  
**Water & air (2&3 S Done)**



**Install/test cards 10/2-11/30**  
**sta 2&3 N and sta 1, 2 & 3 S**



**Install Lead absorber 11/17-11/21**



**Install FEE S rack platform 11/17-11/21**  
**And racks**



**FEE S Cabling & Testing 11/24-11/29**



**MuTr sta 1 S Decaps 12/1-12/12**



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October				November				December				January				
5	12	19	26	2	9	16	23	30	7	14	21	28	4	11	18	25

Station 1 north access 12/15-12/31  
(CM moved south, WC west)



Remove Sta 1 S 11/24-12/18  
And Sta 2/3 N scaffolds



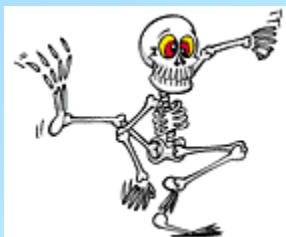
Move CM south 12/18



Install MMS lampshade 12/18-12/21



Install MMN lampshades 12/18-12/31



October November December January

5 12 19 26 2 9 16 23 30 7 14 21 28 4 11 18 25

East Carriage Install 1/2-1/15  
(CM moved north, EC & WC opt.)

Install EC 1/2-1/15

Run Position 1/16-1/19  
(MMS moved north, EC & WC opt.)

Move MMS North 1/16

Ready for run 9 1/19-2/1  
(MuID Collars Installed, EC & WC opt.)

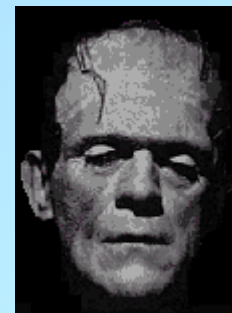
DC East/West Repairs 1/16-2/1

Install MuID Collars 1/19-1/21

Pink/Blue/White Sheets 1/16-2/1

Close Shield Wall 126-1/30

Cryo Start Up, Start Physics 2/1-2/18



# Other On going Tasks

October    November    December    January  
 5 12 19 26    2 9 16 23 30    7 14 21 28    4 11 18 25

Fan Tray Maintenance (fill in)



RPC3 Prototype install (11/15-11/30)

(including assembly at factory,  
 Moving tunnel shielding, modify  
 Crystal palace & vapor barrier,  
 RPC3 install, rack, install  
 scintillators, services & testing)



RPC Factory Support

Dark Current test stand

Storage Racks with humid. Cntrl



Prep for 2009 Shutdown  
 (as time permits)



Gas Mixing house UPS by 11/30





October    November    December    January  
 5 12 19 26    2 9 16 23 30    7 14 21 28    4 11 18 25

Rack room electronics, etc.



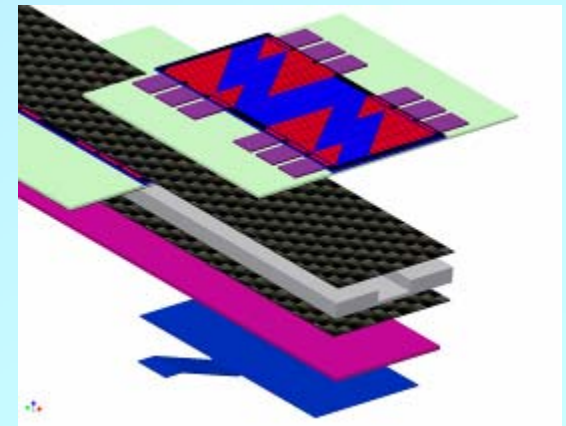
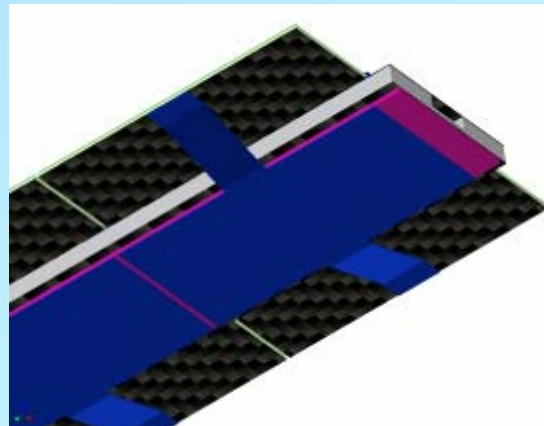
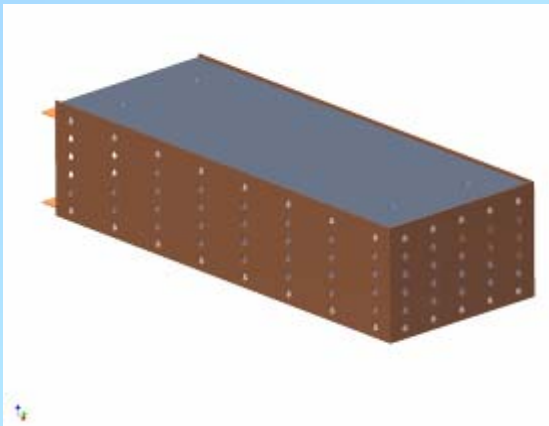
Build new storage 10/1-11/15  
 crates



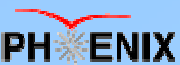
NCC prototype design support  
 HBD support  
 VTX fabrication tooling design  
 VTX installation design  
 FVTX design/engineering support



As Required



# Shutdown '08 Electrician Work



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- \*Run Power to new MuTrgr FEE racks on MMS. *by 10/31 Start work Monday 10/27*
- \*Install 120 volt AC power drops into new control room annunciator alarm rack (rack room). *Completed*
- \*Re-wire ToF Rack power distribution bucket in Gas Mixing House. This is to correct minor wiring errors. *By 10/31/08*
- \*Install new UPS in Gas mixing house. *By 11/30*
- \*Walk down PHENIX Electrical Distribution Panels/Breakers and update changes on the electrical one-line drawings. *Complete by 11/30/08.*
- \*Install power and signal cable tray (ceiling suspended) for new DCM rack row - north of existing DCM racks. *To Be Scheduled*
- \*Assist in signal and LV cable installation for MuTr/RPC upgrades as necessary. *MuTrgr North Done, MuTrgr South & RPC Prototype to be scheduled*
- \*Repair Duct heaters for Control Room. *Temporary 15 KW Heater installation in progress. 6 week parts lead time for duct heater repair - CAD work.*
- \*Upgrade power capacity of Central Magnet power distribution for future bridge rack loads.
- \*Remove existing 15KVA transformer and install 45KVA unit.
- \*Install new (larger size) power cable from rack room to Central Magnet distribution breaker panels.  
REMOVE THIS ITEM----SCHEDULE NEXT YEAR

*Lower priority not required for run 9, to be scheduled when manpower available and operations & projects inconvenience are minimized*



10/30/08

# 1008 Building Maintenance Issues

- Roof leak in utility bathroom at northwest corner behind tech offices.
- Roof leak over door between rack room and assembly hall.
- ~~New Carpet for Control Room (next Tuesday ?)~~
- Trailer bathroom slop sink (for Custodians).
- Heat wrap tape for trailer bathroom toilet drains to prevent freeze/clogging in winter.
- New duct heater (In progress)
- Improved Rack Room AC performance



# Scaffolding Crates

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Existing Crates for Sta 2/3N scaffolds are severely rotted and need to be replaced with weather resistant materials.

Sta. 1 scaffolds do not have storage crates. These need to be built of similar materials. All dimensions of crates are available.

# New Carpet in Control Room

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# MuTrigger FEE South & RPC Prototype Racks

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Both Racks ready for installation

# MuTrigger FEE South Rack Prep: Water & Power



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# MuTrigger FEE North Sta. 2 & 3 PC Board installation and cable connections continue

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## RPC2 Prototype Installation



*Note: AGS substation 3F @ 912A  
Power to be shut down 10/25  
0900-1000 for  
Normal/Emergency  
Power transfer test. This will  
affect the factory/tent*

RPC prototypes will be  
ready for installation as  
follows: RPC3 11/15,  
RPC2: Done



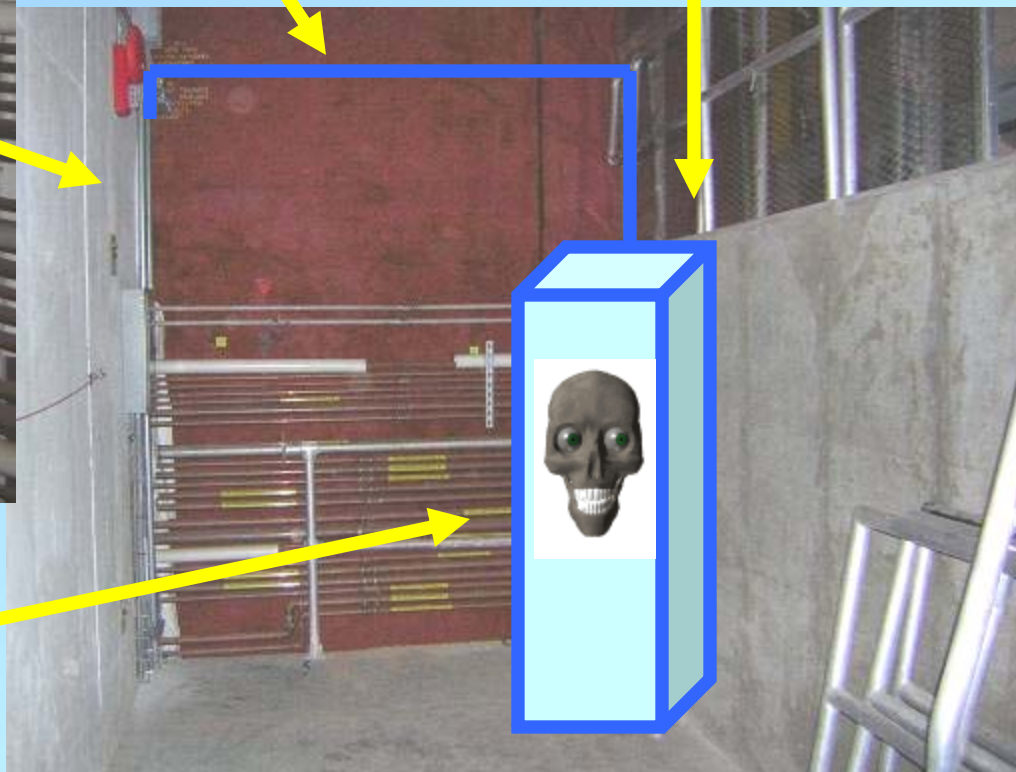
10/30/08

# RPC2 Prototype Rack



Power bridges  
across to Rack

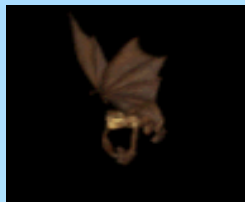
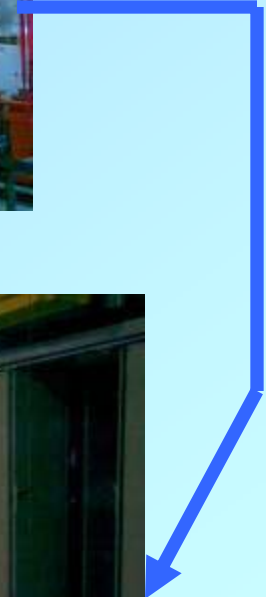
Cable tray runs on  
edge of pedestal  
floor to rack



Rack goes here

# RPC2 Prototype Installation

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Ready for Installation

10/30/08

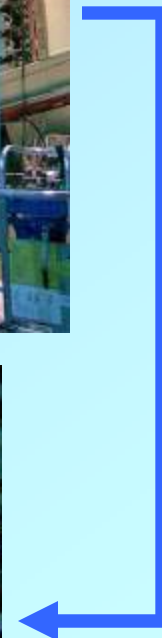
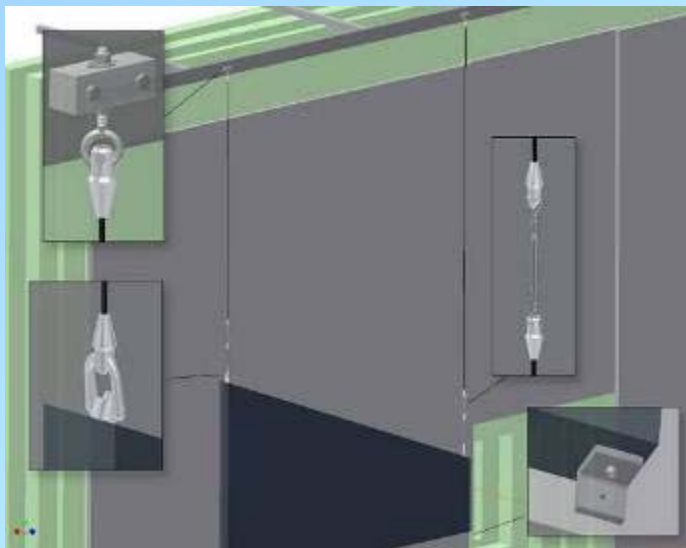
# RPC2 Prototype Installation



Installed Today



Final Survey  
needed

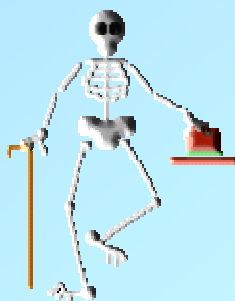


# RPC2&3 Prototype Installation

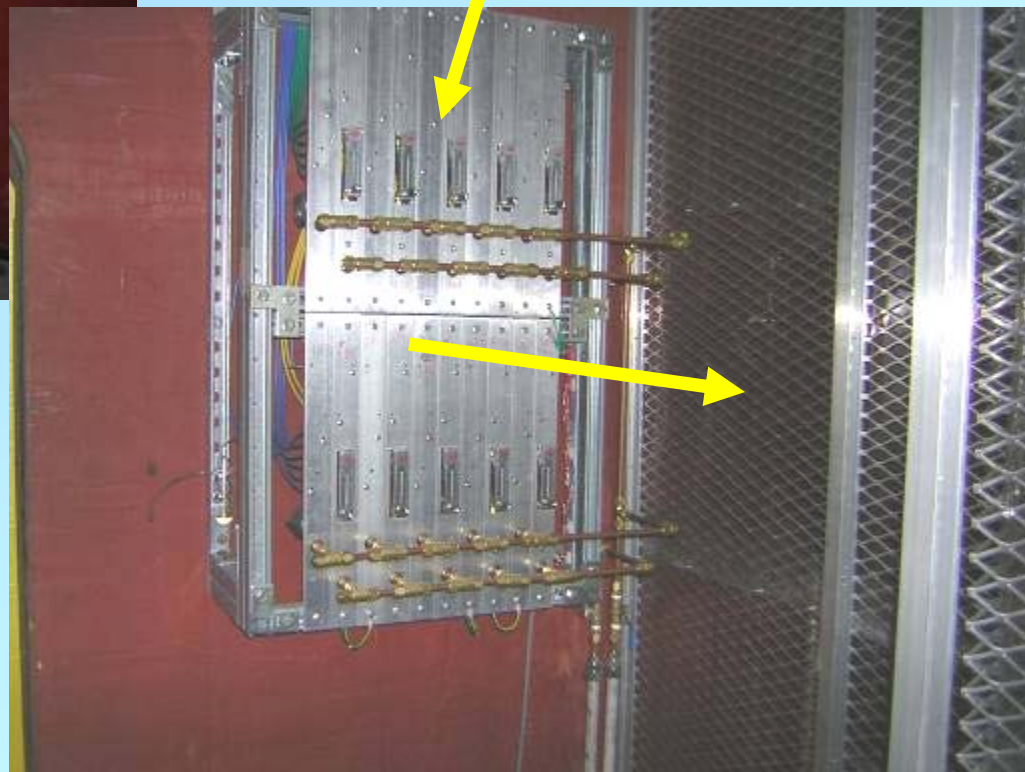
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Cables go under magnet to west side of pedestal



Gas flow rack and gas lines to be taken off MuID steel and moved to crystal palace wall





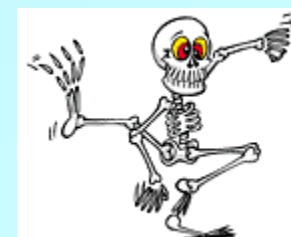
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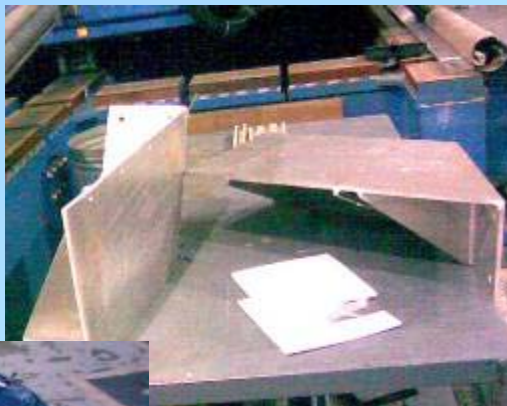
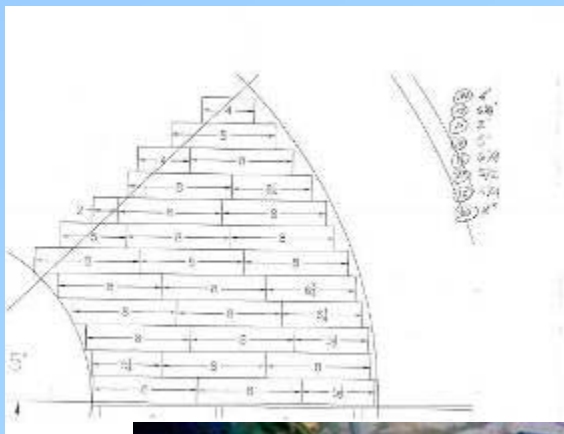
## RPC3 Prototype Installation: Scintillators

- 4 pairs of scintillation counters
- each pair consists of a ~1" thick and a ~1/2" thick scintillator
- active area ~ 2" x 2" ; Length ~10" with phototube and shielding
- Weight is ~ 4 lb per pair.
- To be positioned in South tunnel uniformly distributed around the beam pipe at approximately 3, 6, 9 and 12 O'clock at a radially convenient location which overlaps the RPC3 prototype
- Z location is south of RPC3 as close as possible but at most 12" away (for the 3 O'clock pair, others to match z-position)
- Detectors require 2.5 kV to be run from IR.
- 16 channel signal, also to be run from IR
- Rack support is TBD



# RPC Absorber

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We need 80 2x4x8 and 28 2x4xZ, where Z is 13 different lengths of varying quantities between 1-1/2" and 6-3/4"

RFQ placed with CS

J. Scott will deliver 120 2x4x8 rad clean and painted lead bricks, on skid to 1008 by 10/15

Don, Jimmy, Kenny, Carter, John and Mike L. must take TQ-LEAD1 (web course) by 10/15

Checking into lead cutting at SUNYSB

Work permit req'd



## RPC2 Factory Storage area



Dark Current  
Test Stand  
components  
received.



RPC group to dispose of shipping  
containers and left over equipment to  
keep storage area uncluttered.



Gap and Module storage plan written and  
will be made a part of the overall RPC  
factory plan.

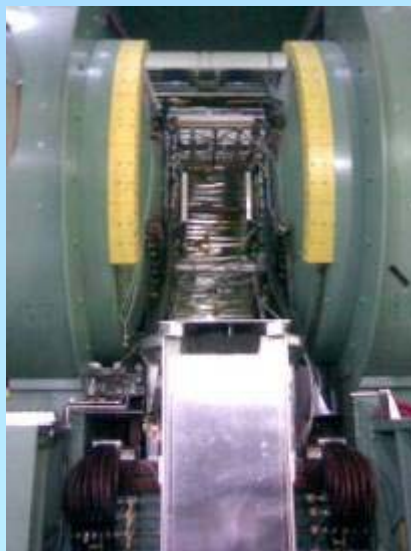


## HBD Installation Schedule:

West (Bill): 11/6 or 11/11

East (Ted): 12/16 (tentative)

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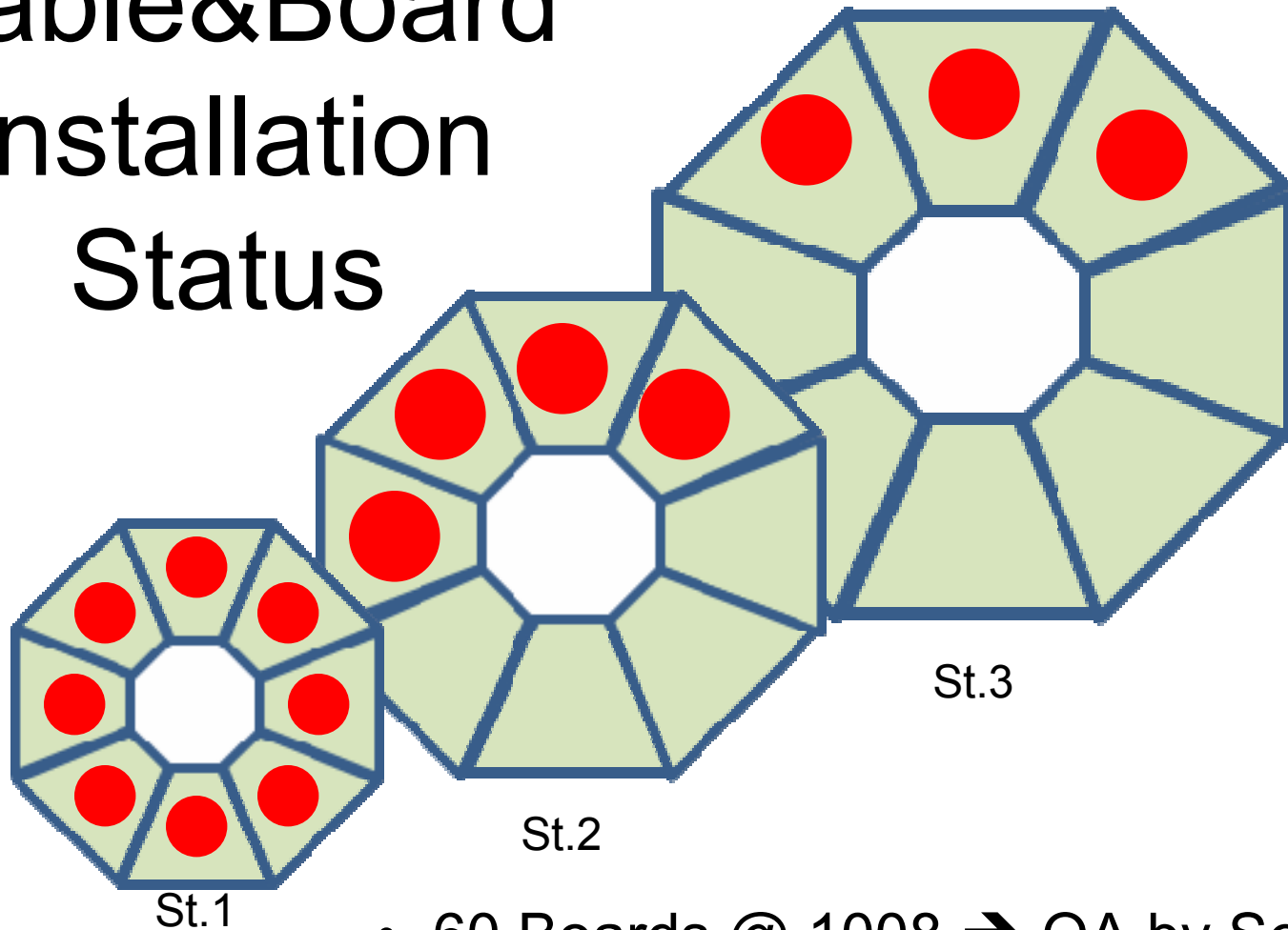
10/30/08

# MuTrig Status

RIKEN/RBRC

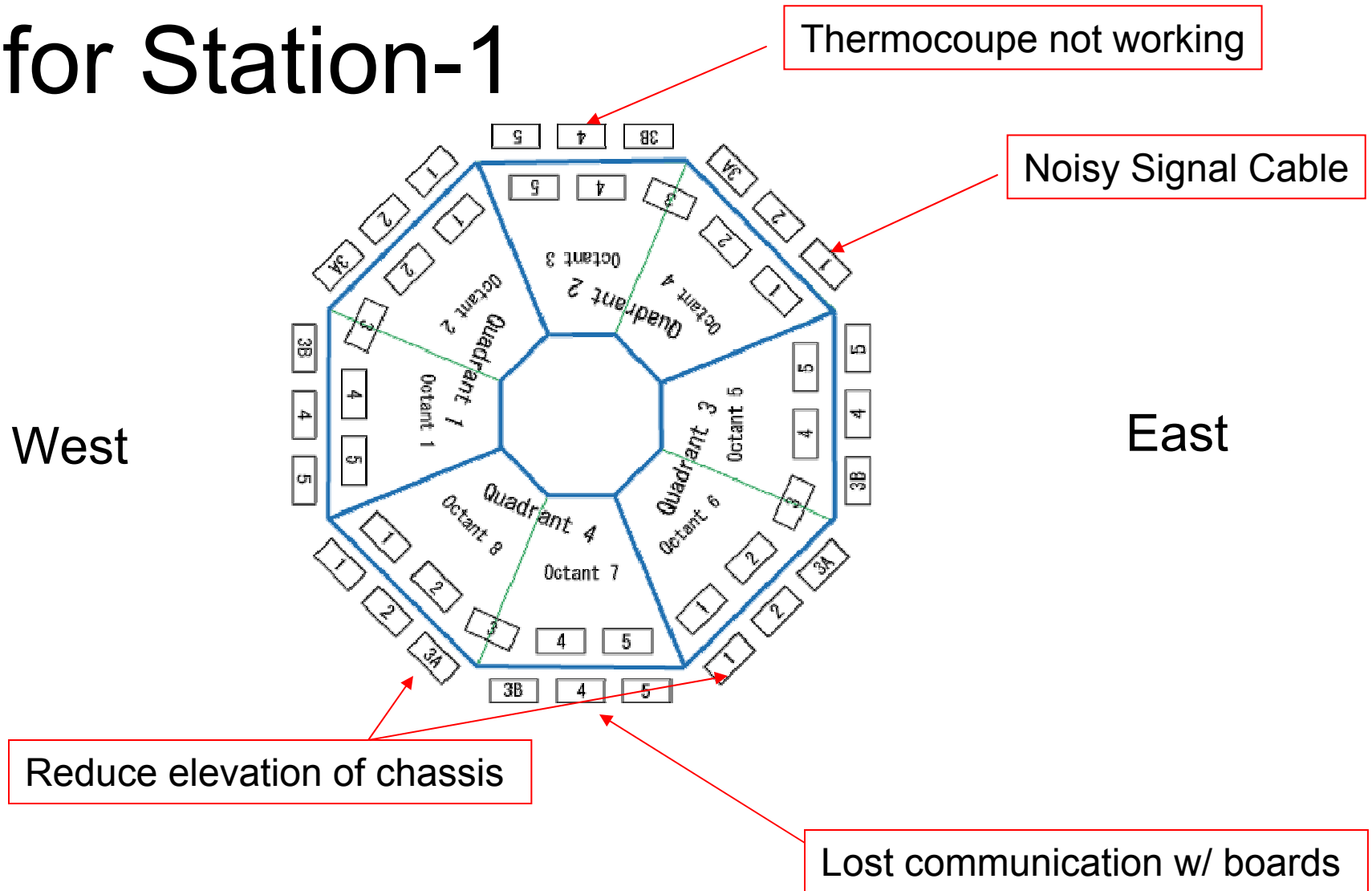
Itaru Nakagawa

# Cable&Board Installation Status

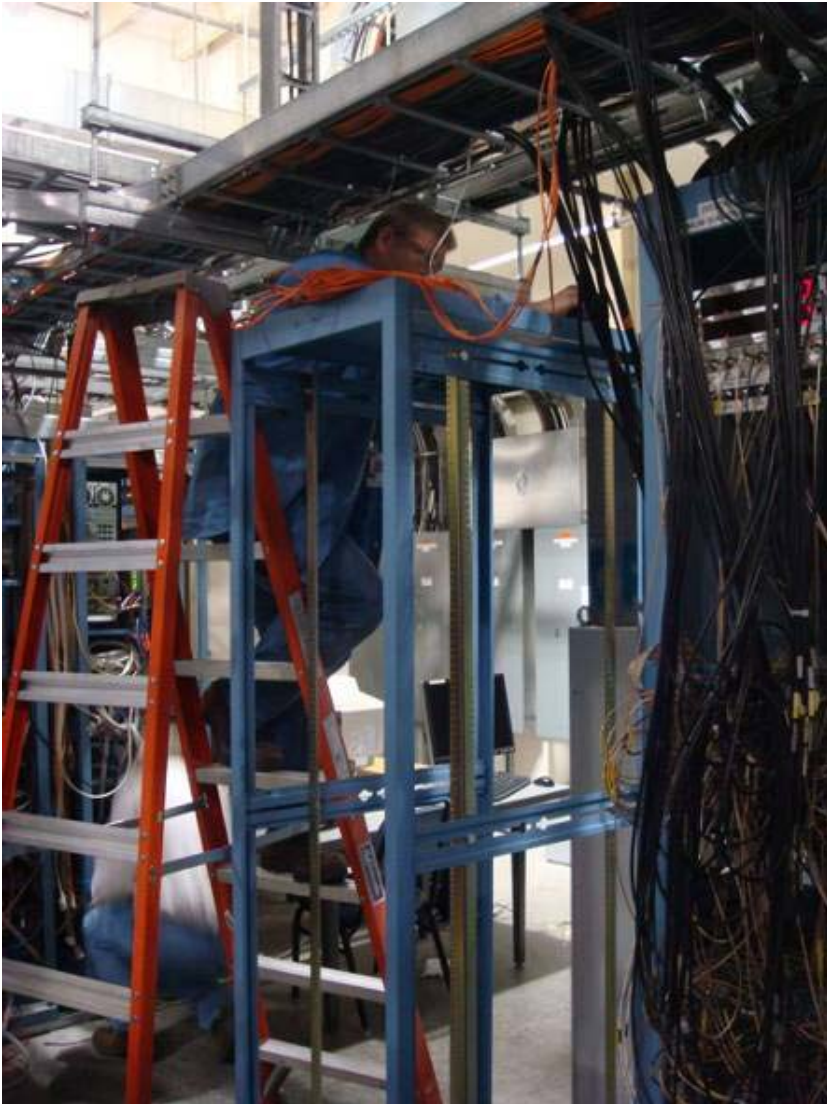


- ~60 Boards @ 1008 → QA by Sean  
10 ~ 20 boards / day
- 50 Boards + 324 cables arriving next week

# To be done for Station-1



# MRG Rack

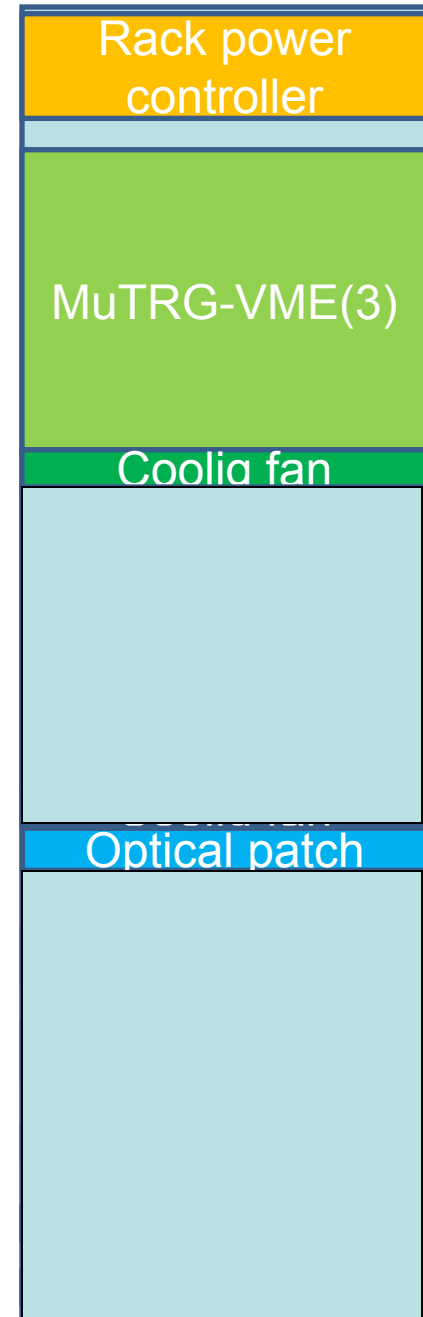
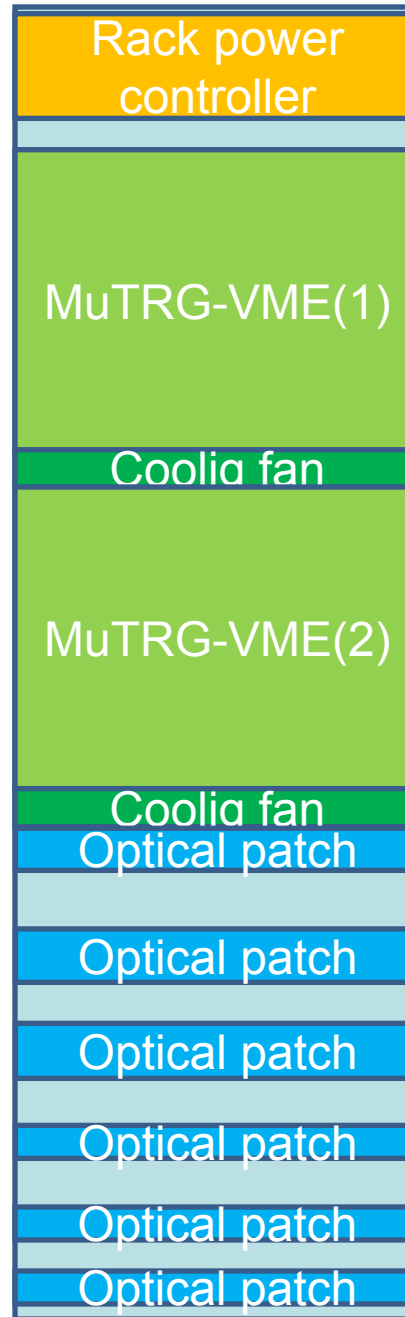


Becomes possible to communicate  
with 10 boards at once

# MRG Rack

- Components
  - Power supply (>~500W)
  - MuTRG-VME(9U) x 4
    - ~500W per VME rack
    - ~1kW/rack (10A@110V)
  - Fan trays (**PHENIX**)
  - Optical patch (LC)
    - Needs
      - 232 pairs (north)
      - 200 pairs (south)

North

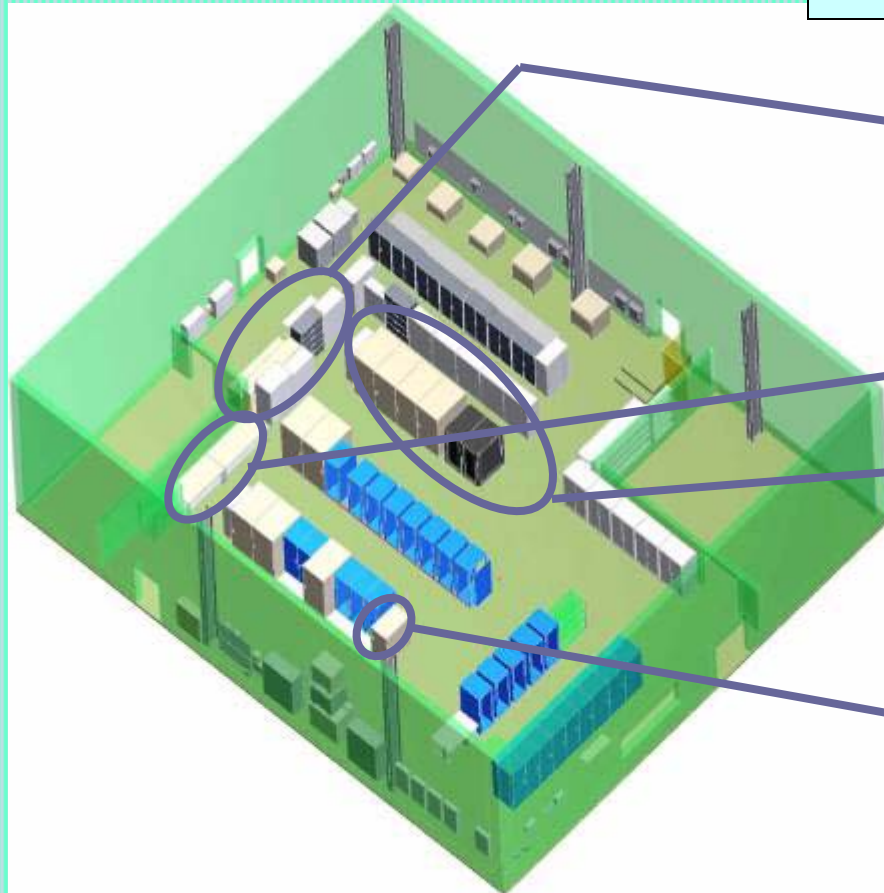


44U

South

30

# Rack Room Reorganization



Remove Workbench, relocate desk, file cabinet & 3 storage cabinets

Remove 2 workbenches, replace with desk (see above)

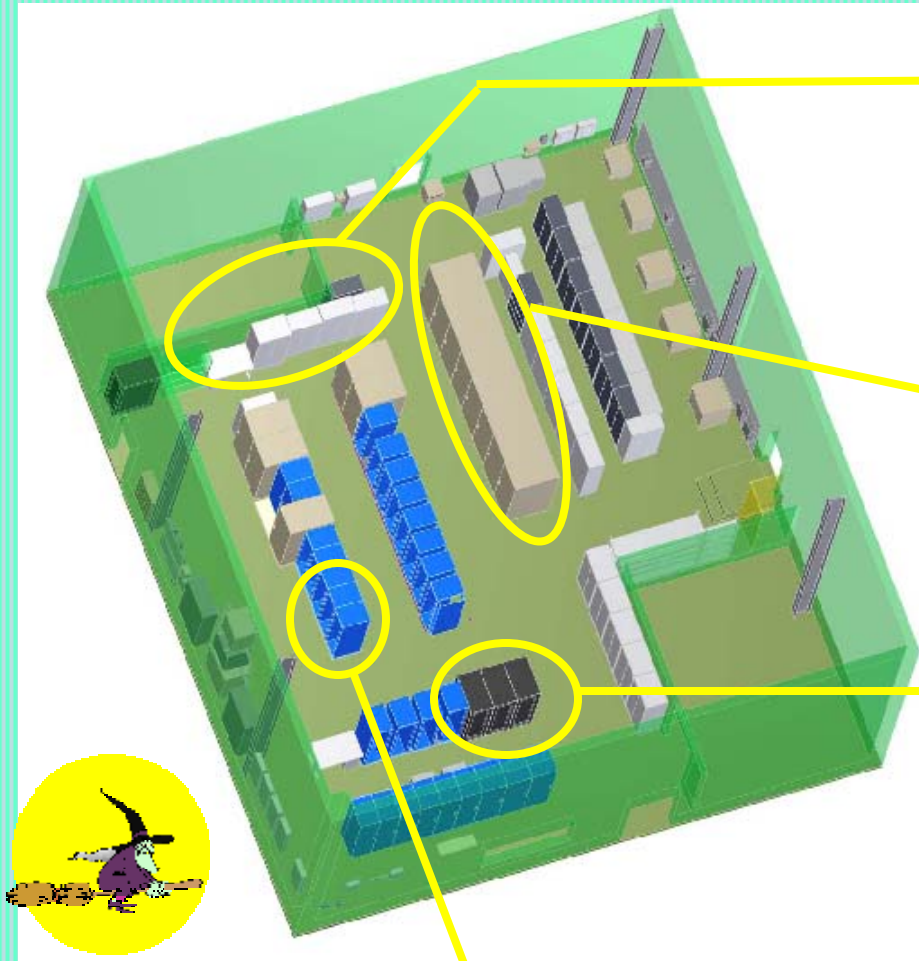
Relocate storage rack at west end, relocate 2 black racks to end of row 2, add 2 large DCM water cooled racks to both east and west end of this row

Remove short rack replace with tall blue rack from end of row 2

Rack Room Layout as of 10/01/08



## Proposed Reorganization

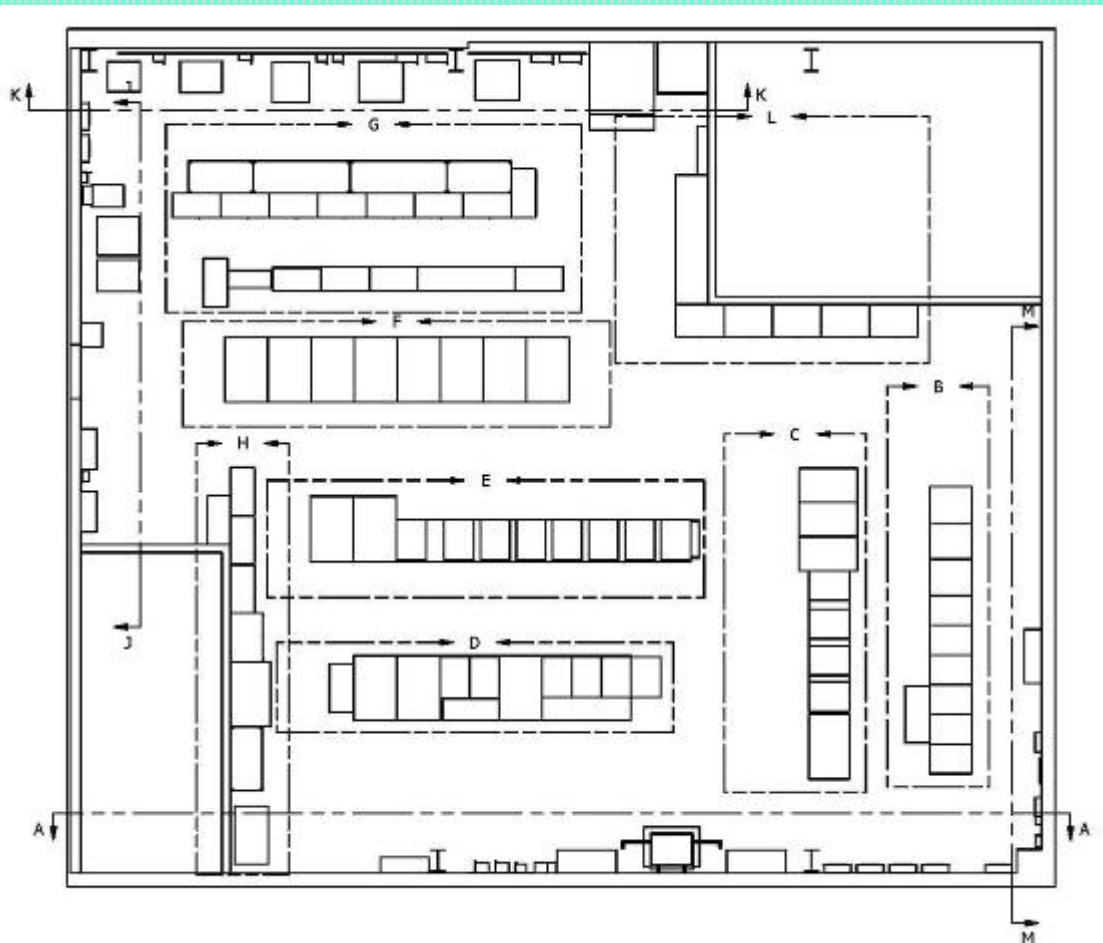


Relocated file & storage cabinets, & desk

Added 2 DCM racks to east end of row 5 and 2 DCM racks to west end of row 5

Moved 2 large black racks from row 4 and added a third large black rack to row 2

Moved tall blue (open) rack from north end of row 2 to east end of row 3 and added another of the same to row 3



Section A-A: South Wall

Detail B: Row 1

Detail C: Row 2

Detail D: Row 3

Detail E: Row 4

Detail F: Row 5

Detail G: Rack Room Row 6&7 Storage

Detail H West (Laser Room Wall)

Section J-J West Wall

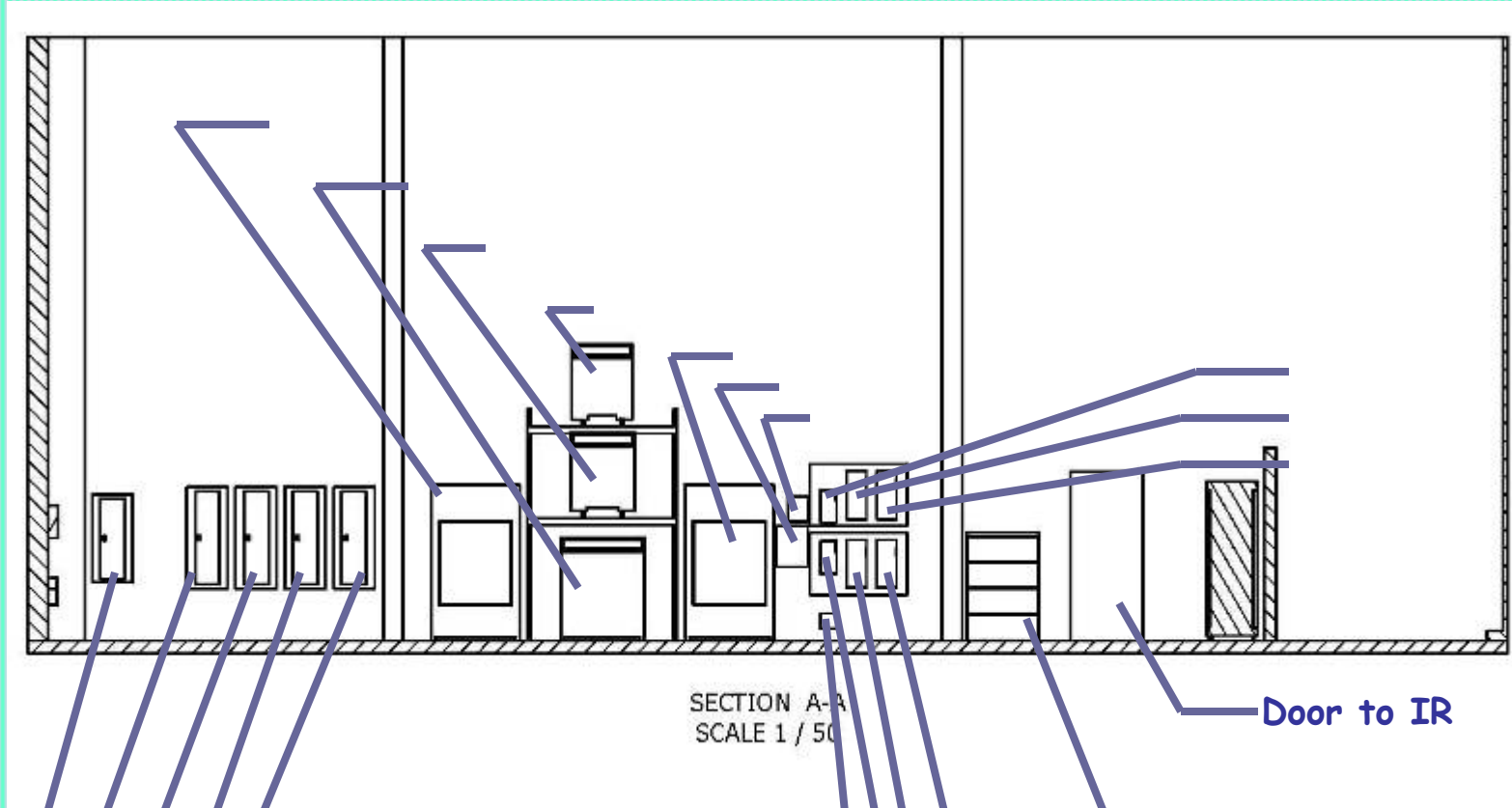
Section K-K North Wall

Detail L North & East Machine Shop Walls

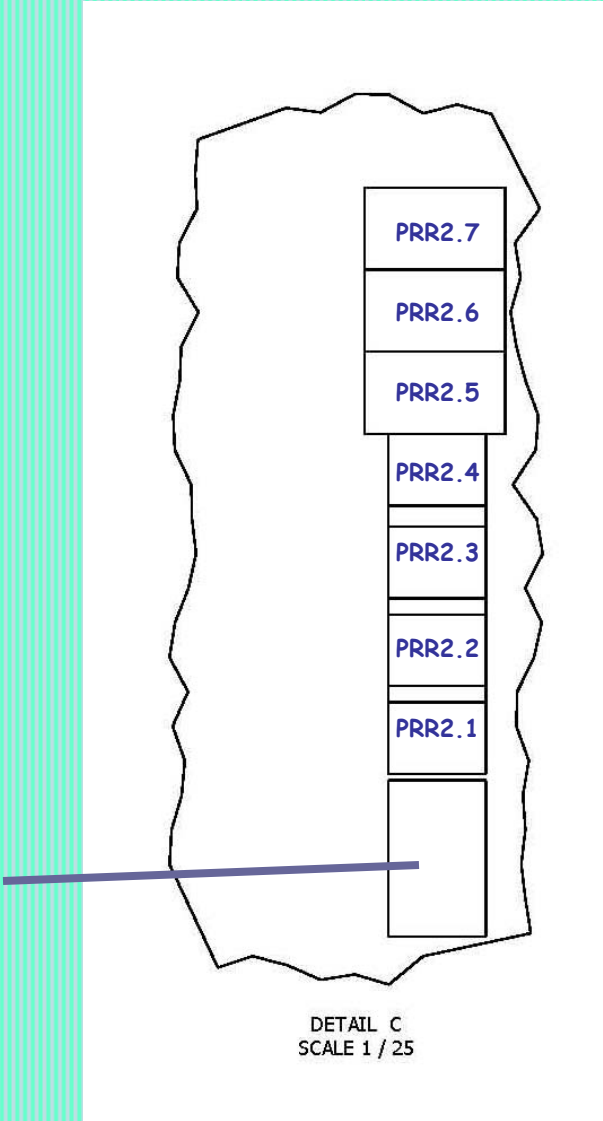
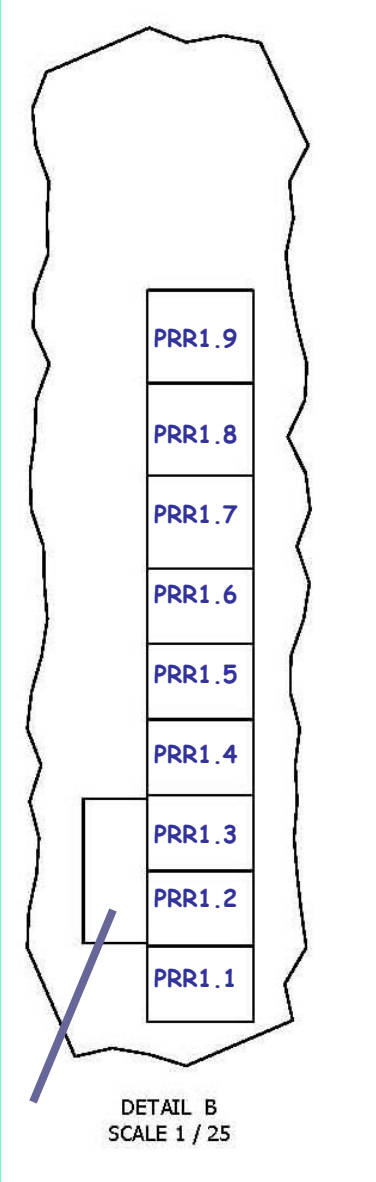
Section M-M East Wall



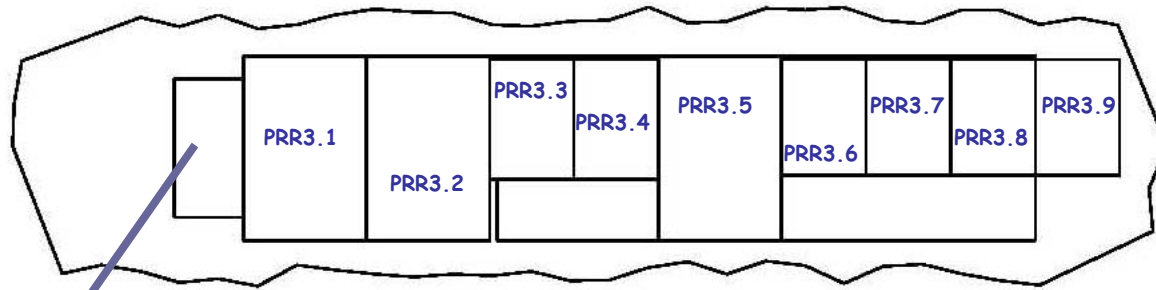
# PHENIX Rack Room South Wall



PHENIX Rack Room Row 1

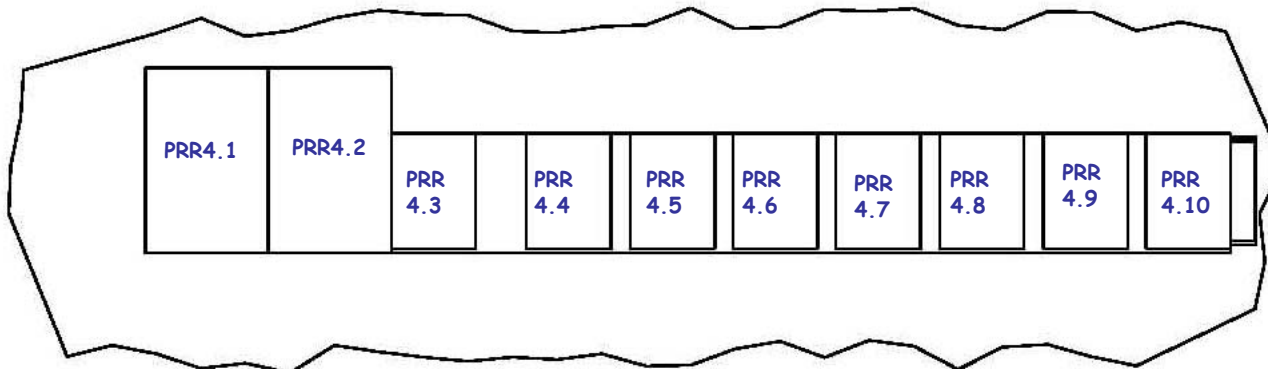


## PHENIX Rack Room Row 3



DETAIL D  
SCALE 1 / 25

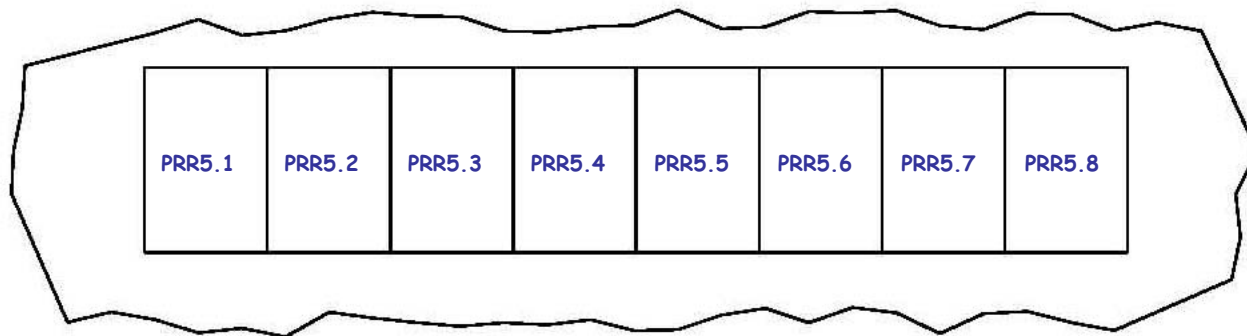
## PHENIX Rack Room Row 4



DETAIL E  
SCALE 1 / 25



## PHENIX Rack Room Row 5

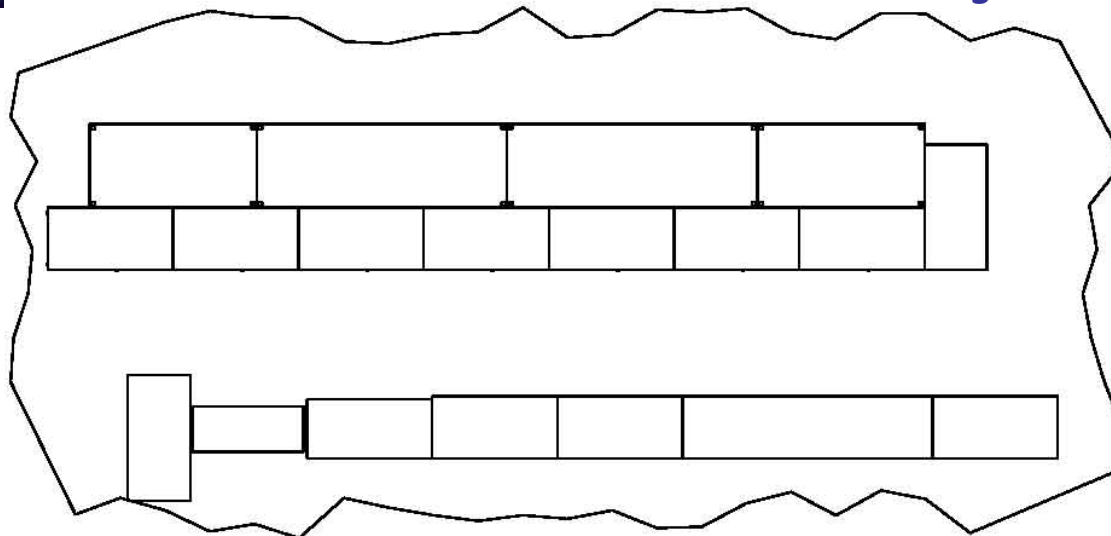


DETAIL F  
SCALE 1 / 25



Need to tee off supply and returns for 2 racks in each of these 2 positions

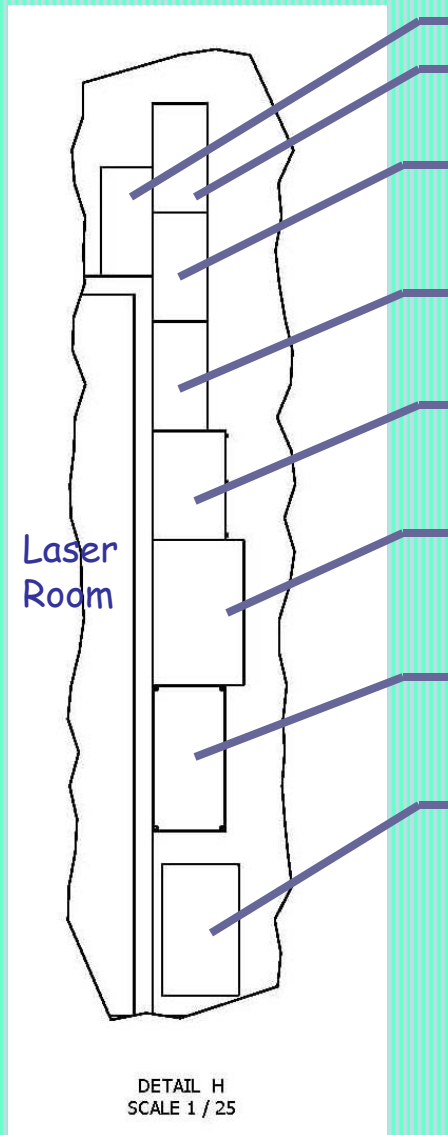
## PHENIX Rack Room Row 6 & 7 Storage



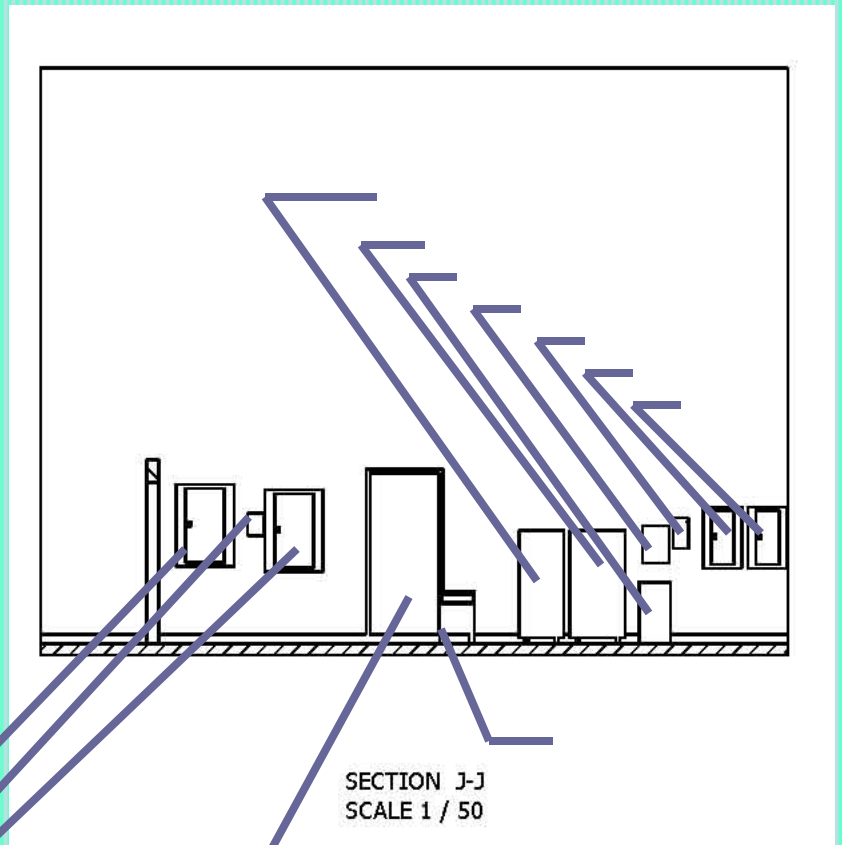
DETAIL G  
SCALE 1 / 25



# PHENIX Rack Room West (Laser Room) Wall

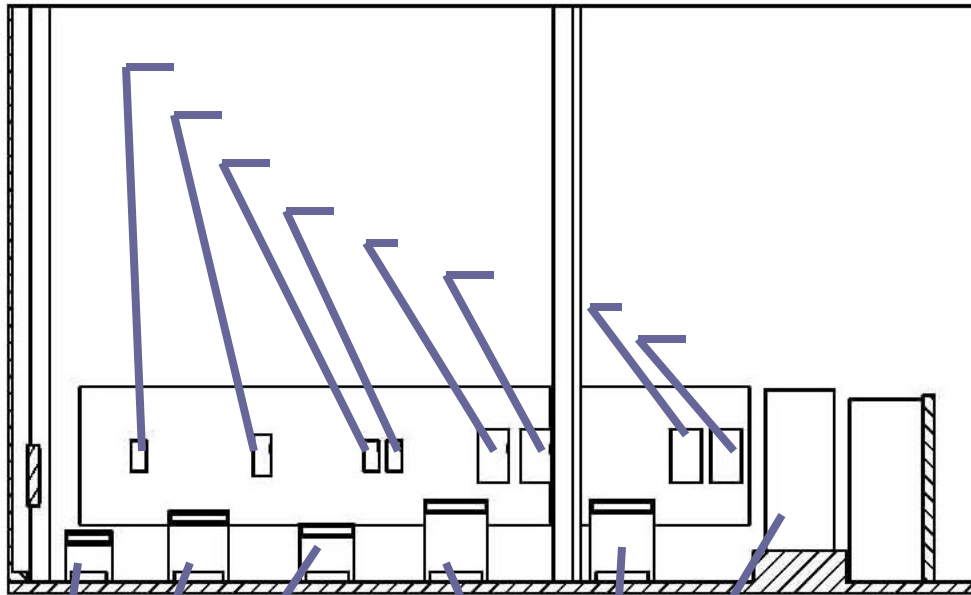


# PHENIX Rack Room West (Rear) Wall



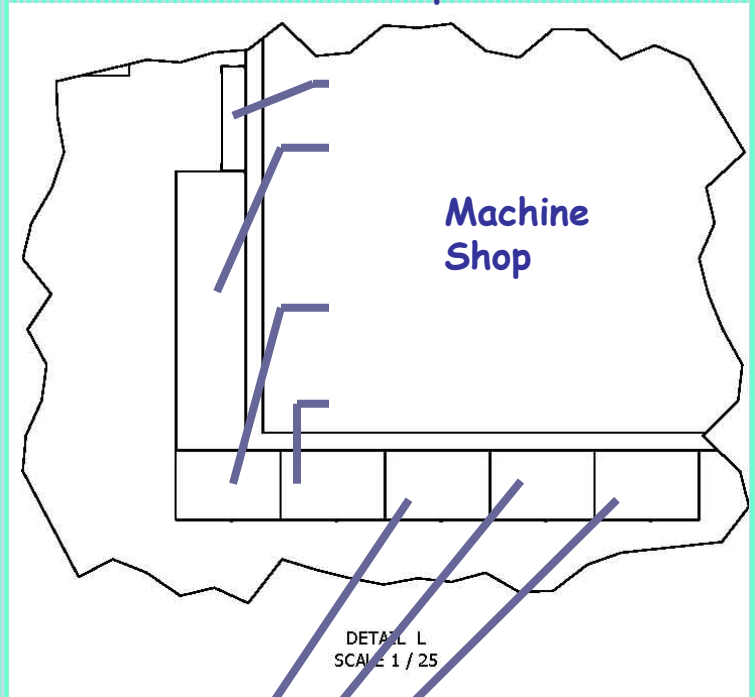
Door to Deadend Alley

## PHENIX Rack Room North Wall



SECTION K-K  
SCALE 1 / 50

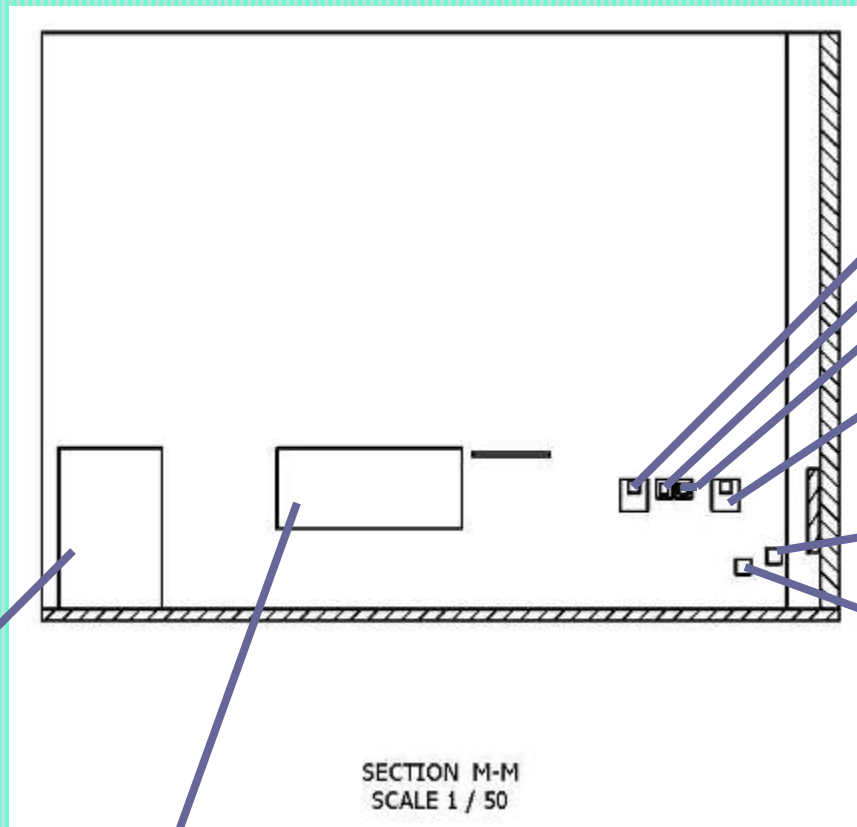
## PHENIX Rack Room North & East Machine Shop Walls



DETAIL L  
SCALE 1 / 25



## PHENIX Rack Room East Wall



Doorway  
to  
Control Room

Window to  
Control Room





# Safety, Security, etc.

1. Training update sent out: we're in pretty good shape.
2. List of persons involved in RPC project to allow obtaining of a TLD from CAD provided to Ray Karol. If you need a badge you can get one from CAD safety office (see Ann Marie). On the list:

PHENIX: Kenny Jones, James LaBounty, Mike Lenz, Sal Polizzo, Frank Toldo, John Tradeski, Carter Biggs, Steve Boose, Rich Ruggiero, Paul Giannotti, Ed O'Brien, Don Lynch, Rob Pisani

RPC: Rusty Towell, Ralf Seidl, Young Jin, Dave Northacker, Ruizhe Yang, Anselm Vossen, Beau Meredith, Shouyang Hu, Cheng-Yi Chi, David Kleinjahn

All safety requirements from PHENIX Awareness training and the RPC factory apply equally in the tunnel. In addition, no equipment, tools, electronics or other material is to be left in the tunnel without specific approval of PHENIX engineering (Don Lynch, Paul Giannotti or Steve Boose).

3. Latest info from explosion on site at water treatment bldg. – It is unlikely that this was caused by a stray black hole from RHIC. Energy surge from secret alien space craft research has not yet been ruled out.

# Where To Find PHENIX Engineering Info

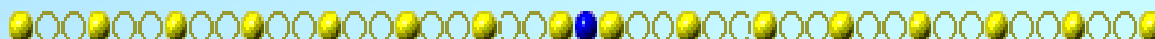


*Have a  
~~Happy~~  
Scary  
Halloween*

Technical Support 2008



Links for the weekly planning meeting slides, long term planning, pictures, videos and other technical info can be found on the web site:



[http://www.phenix.bnl.gov/WWW/INTEGRATION/ME&Integration/DRL\\_SSint-page.htm](http://www.phenix.bnl.gov/WWW/INTEGRATION/ME&Integration/DRL_SSint-page.htm)

10/30/08